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Declarations under Rule 4.17:

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- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH. CN. CO. CR. CU. CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

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(54) Title: BIOLOGICALLY ACTIVE COMPOUNDS

(57) Abstract: Compounds of general formula (I) wherein: $Z = CR^3R^4$, where R^3 and R^4 are independently chosen from C_{0-7} -alkyl $P_1 = CR^5R^6, P_2 = O, CR^7R^8 \text{ or } NR^9, Y = CR^{10}R^{11} - C(O) \text{ or } CR^{10}R^{11} - C(S) \text{ or } CR^{10}R^{11} - S(O) \text{ or } CR^{10}R^{11} - SO_2(X)_0 = .CR^{16}R^{17} (W)_n = 0, S, CR^{10}R^{11} - C(S) \text{ or } CR^{10}R^{11} - SO_2(X)_0 = .CR^{10}R^{11} - C(S) \text{ or } CR^{10}R^{11} - SO_2(X)_0 = .CR^{10}R^{11} - SO_2(X)$ C(O), S(O) or $S(O)_2$ -or NR^{18} (V)_m = C(O), C(S), S(O), $S(O)_2$, $S(O)_2NH$, OC(O), NHC(O), NHS(O), $NHS(O)_2$, OC(O)NH, C(O)NHor CR19R20, C=N-C(O)-OR19 or C=N-C(O)-NHR19, U = a stable. 5- to 7-membered monocyclic or a stable 8- to 11-membered bicyclic ring which is either saturated or unsaturated, and which includes zero to four heteroatoms and their salts, hydrates, solvates, complexes and prodrugs are inhibitors of cathepsin K and other cysteine protease inhibitors and are useful as therapeutic agents, .for example in osteoporosis, Paget's disease gingival diseases such as gingivitis and periodontitis, hypercalaemia of malignancy, metabolic bone disease, diseases involving matrix or cartilage degradation, in particular osteoarthritis and rheumatoid arthritis and neoplastic diseases. The compounds are also useful for validating therapeutic target compounds.





MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

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INTERNATIONAL SEARCH REPORT

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A. CLASSIF IPC 7	CO7D487/04 A61K31/407 A61P19/0	0 A61P35/00							
According to International Patent Classification (IPC) or to both national classification and IPC									
B. FIELDS SEARCHED									
Minimum documentation searched (classification system followed by classification symbols) IPC 7 C07D									
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Electronic da	ta base consulted during the International search (name of data bas	e and, where practical, search terms used)							
EPO-Internal, WPI Data									
C. DOCUME	NTS CONSIDERED TO BE RELEVANT								
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° Special ca	tegories of cited documents:	"T" later document published after the Inte	mational filing date						
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